REMARKS

Claims 1-22 are pending. No amendments are made herein.

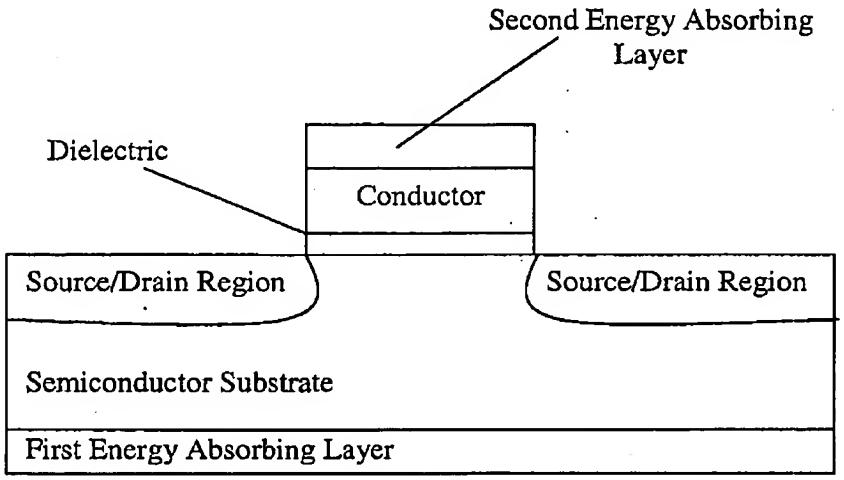
Applicants respectfully submit claims 1-2, 4-10, 12-19 and 21-22 are patentable over Asakawa (U.S.5,565,697) in view of Talwar (U.S. 6,300,208) under 35 U.S.C. 103(a). More specifically, Asakawa and Talwar fail to teach or suggest all features of independent claims 1, 13, 16, and 21.

With respect to independent claim 1 and its dependencies Asakawa and Talwar fail to teach or suggest making first and second current electrodes electrically active by receiving heat from an energy absorbing layer at a bottom surface of the first and second current electrodes. With respect to independent claim 13 and its dependencies Asakawa and Talwar fail to teach or suggest forming an energy absorbing layer beneath the first and second current electrodes and the control electrode and heating the first and second current electrodes using enery absorbed by the energy absorbing layer. With respect to independent claim 16 and its dependencies Asakawa and Talwar fail to teach or suggest a semiconductor layer overlying an energy absorbing layer and a semiconductor electrode contained within the semiconductor layer, the semiconductor electrode being made electrically active from heat provided by the energy absorbing layer. With respect to independent claim 21 and its dependencies Asakawa and Talwar fail to teach or suggest reducing the resistivity of a region by receiving heat at a bottom surface of the region and from the energy absorbing layer. In summary, the claims involve at least an energy absorbing layer under a region and the region receiving heat from the energy absorbing layer. Asakawa and Talwar, together or alone, fail to teach or suggest this configuration.

Asakawa teaches a high-melting point metal film (5) that the Examiner asserts is an energy absorbing layer. For discussion herein Applicants will refer to Asakawa's high-melting point metal film as an energy absorbing layer, but doing so does not mean that the Applicants necessarily agree that Asakawa's high-melting point metal film is an energy absorbing layer. Applicants herein will refer to Asakawa's high-melting point metal film as an energy absorbing layer because even if the Examiner is correct in this assertion, Applicants' claims are still patentable over Asakawa and Talwar. Thus, Applicants herein do not assert that Asakawa's high-melting point metal film is or is not an energy absorbing layer. Instead, for discussions herein Applicants will construe the facts most against them and therefore will presume that Asakawa's high-melting point metal film is an energy absorbing layer.

Even if Asakawa teaches an energy absorbing layer under source and drain regions, Asakawa fails to teach or suggest annealing or exposing the source and drain regions to an energy source to electrically active them. The Examiner relies upon Talwar to teach using a laser to activate Asakawa's source and drain regions. Applicants assert however, that combining Talwar's teaching of using a laser to activate source and drain regions with Asakawa's structure does not result in Asakawa's source and drain regions receiving heat from Asakawa's energy absorbing layer. As explained above in detail, the claims all require a region to receive heat from an energy absorbing layer that is under the region. The combination of Asakawa and Talwar does not result in this feature.

Talwar teaches using a layer to heat an energy absorbing layer over a control electrode with a laser. The energy absorbing layer then heats Talwar's source and drain regions by transferring heat through the control electrode and dielectric to the sides of the source and drain regions. (See FIG. 2F and Column 7, lines 12-40). Asakawa teaches an energy absorbing layer under source and drain regions. Therefore, when combining the teaching of Talwar with Asakawa the resulting structure will include an underlying first energy absorbing layer, source and drain regions over the first energy absorbing layer and a second energy absorbing layer over a conductor. See below for a diagram which includes the most important features for this discussion.



Therefore, when a laser is applied to activate the source/drain regions the second energy absorbing layer on top of the conductor will absorb the heat and be used to activate the source/drain region. Thus, the first energy absorbing layer under the source/drain regions will not absorb energy or heat the source/drain regions because the presence of the second energy absorbing layer will absorb the energy first. In other words, the presence of the second (Talwar's) energy absorbing layer will destroy the functionality of the first (Asakawa's) energy absorbing layer with regards to the first energy absorbing layer being able to heat the source/drain regions.

The Examiner's combination does not include the first energy absorbing layer because the Examiner is improperly picking and choosing parts of Talwar and combining it with Asakawa. (By picking and choosing Talwar's laser and combining it with Asakawa the Examiner is improperly using hindsight analysis by using the Applicants' specification as a road-map for picking pieces from the prior art.) Instead, Talwar needs to be viewed as a whole. As a whole, Talwar requires the first energy absorbing layer as part of its activation process. Thus, the combination of Talwar and Asakawa would include the first energy absorbing layer.

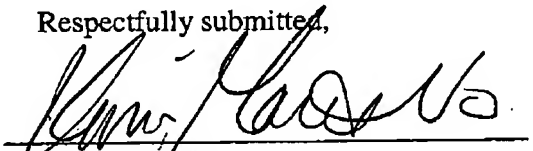
With respect to claim 22, Applicants submit Asakawa and Talwar fail to teach or suggest another feature. More specifically, they fail to teach or suggest that the energy absorbing layer is an electrically insulating material. Asakawa's energy absorbing layer is a metal. The Examiner asserts that the layer underneath the energy absorbing layer, an insulator, can be an energy absorbing layer. As a first point, Asakawa requires the presence of the metal energy absorbing layer and due to the presence of the overlying metal energy absorbing layer, the underlying insulator layer cannot make first and second current electrodes electrically active by receiving heat from it at a bottom surface of the first and second current electrodes, as required in claim 1, from which claim 22 depends. Therefore, even if the insulator can itself be an energy absorbing layer that makes first and second current electrodes electrically active by receiving heat from it at a bottom surface of the first and second current electrode, the insulator can not act as an energy absorbing layer because of the presence of the metal energy absorbing layer. Secondly, by getting rid of Asakawa's metal energy absorbing layer and using the insulator as the energy absorbing layer would destroy the functionality of Asakawa. Asakawa requires the presence of the metal energy absorbing layer because it is a high-melting point film that can be utilized as a conductor. (See column 8, lines 9-14 and Abstract). The insulator is not a high-melting point

film that can be used as a conductor because it is an insulator. Therefore, omitting the metal energy absorbing layer or replacing it with an insulator would destroy the functionality of Asakawa. For at least this reason, claim 22 is patentable over Asakawa and Talwar for yet another reason.

Applicants submit (dependent) claims 3, 11, and 20 are patentable over Asakawa in view of Talwar and Chan (U.S. 6,057,212) under 35 U.S.C. 103(a). Chan, alone or in combination with Asakawa and Talwar, fails to teach or suggest an energy absorbing layer under a region and the region received heat from the energy absorbing layer, which Talwar and Asakawa fail to teach or suggest as explained in detail above. Thus, for at least this reason, claims 3, 11 and 20 are patentable over Asakawa, Talwar and Chan under 35 U.S.C. 103(a).

Believing to have responded to every issue raised by the Examiner, Applicants believe the present Application is currently in a condition of allowance and earnestly solicit allowance of claims 1-22. Please contact Applicant's practitioner listed below if there are any issues.

Respectfully submitted,

By: 

Kim-Marie Vo
Agent of Record
Reg. No.: 50,714
Telephone: (512) 996-6839
Fax No.: (512) 996-6854
Email: K.Vo@Motorola.com

SEND CORRESPONDENCE TO:

Motorola, Inc.
Law Department

Customer Number: 23125